



## Confirmation of Product Type Approval

**Company Name:** HY-LOK CORPORATION

**Address:** 97, NOKSANSANDAN 27-ROGANGSEO-GU BUSAN 46751 Korea, Republic of

**Product:** Tube Fittings

**Model(s):** 37 Degrees Flared Tube Fittings

**Endorsements:**

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	23-2484258-PDA	21-DEC-2023	20-DEC-2028
Manufacturing Assessment (MA)	19-BK3756133	07-NOV-2019	07-JAN-2025
Product Quality Assurance (PQA)	NA	NA	NA

### Tier

3 - Type Approved, unit certification not required

### Intended Service

Marine Application - Sea water: Tank cleaning services, Non-essential systems - Fresh Water: Non-essential systems - Sanitary/Drains/Scuppers: Deck drains (internal, only above bulkhead deck of passenger ships and freeboard deck of cargo ships), Sanitary drains, Scuppers and discharge (overboard) - Sounding/Vent: Water tanks/Dry spaces, Oil tanks (f.p.>60°C, in cases where the mechanical joints are installed on exposed open decks, as defined in SOLAS II-2/Reg. 9.2.3.3.2.2(10)) - Miscellaneous: Service air (Non-essential), Brine line, Steam

### Description

- Models for 37 degrees tube fittings without O-ring: FU, FL, FT, FC, FBU, FBUW, FBFC, FBL, FMC, FLM, FRTM, FBTM, FLMB, FFC, FLF, FRTF, FBTF, FSFMC, FSFFC, FSL, FSRT, FSBT, FP, FPC, FTER, FN, FS

- Models for 37 degrees tube fittings with O-ring: FOU, FOL, FOT, FOC, FOBU, FOBUW, FOBFC, FOBL, FOMC, FLOM, FROTM, FBOTM, FLOMB, FOFC, FOMR, FOM, FOLM, FOLMB, FOBTM, FORTM, FSFOM FOLF, FORTF, FOBTF, FOOMR, FOOM, FOOLM, FOOLMB, FOOBMT, FOORTM, FSOL, FSORT, FSOBT, FOP, FOTER

### Ratings

Consult the Manufacturer for temperature and pressure ratings. For details, please refer to the attached data sheet.

### Service Restrictions

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

**Comments**

- 1) The manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 2) The subject piping components are to bear permanent identification, such as the manufacturer's name or trademark, standard of compliance, material identify, pressure rating, etc. as required by the standard of compliance and at which the manufacturer guarantees the piping components to meet the requirements of the standards. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the component, and are to serve as a permanent means of identification of the component throughout its service life in accordance with 4-6-1/7.1.3 and 4-6-1/7.1.4 of the ABS Marine Vessel Rules.
- 3) Tube fittings cannot be used for the systems required for fire endurance tests specified in 4-6-2/Table 10 of the ABS Marine Vessel Rules.

**Notes, Drawings and Documentation**

- Maker's drawing
- Design Specification Data Sheet
- Test Report (Tightness, Burst & Vacuum) dated 26 May 2022 with the attendance of ABS Surveyor
- Test Report (Vibration & Pressure Pulsation) dated 08 May 2023 thru 07 June 2023 with the attendance of ABS Surveyor
- Test Report (Repeated & Pull-out) dated 17 July 2008 & 27 Nov. 2014 with the attendance of the other class (DNV)'s Surveyor

**Term of Validity**

This Product Design Assessment (PDA) Certificate remains valid until 20/Dec/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

**ABS Rules**

2023 Marine Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4 & 4-6-2/5.9

**International Standards**

N/A

**EU-MED Standards**

N/A

**National Standards**

N/A

**Government Standards**

N/A

**Other Standards**

N/A



A handwritten signature in dark ink, appearing to read "Joseph W. Wilson".

Corporate ABS Programs  
American Bureau of Shipping  
Print Date and Time: 26-Dec-2023 12:49

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.